

fruit, 5-parted nearly to the base, flattened-ovate: stamens 6–7, 1.5–2.0 mm. long, included, polliniferous: style 2-parted to about the middle, strongly exserted in flower and fruit; stigmas clavate.

Short-styled form. Calyx and stamens 4 mm. long, the latter exserted: style 1.5 mm. long, parted to below the middle, included, not much increased in fruit: stigmas capitate.

Achene 1.5–1.7 mm. wide, 2–2.5 mm. long, lenticular, ovate-pointed, nearly black, rather dull, slightly and evenly convex on both sides.—Mississippi, near the coast; probably in sand. MISSISSIPPI: Long Beach, September 8, 1900, *Tracy & Lloyd*, no. 133 (TYPE in Herb. Gray; duplicate in Herb. Mo. Bot. Gard.); Manuel, *Tracy*, no. 4929 in Herb. Mo. Bot. Gard. Both distributed as *P. mexicanum* (?).

5a. Var. **interius**, var. nov., pedunculis pilis glandulosis plus minusve abortivis sparse munitis; ocreolis acutis.—Oklahoma and Texas. OKLAHOMA: Huntsville, Kingfisher County, August 23, 1896, *L. A. Blankinship* (TYPE in Herb. Gray; duplicate in Herb. Mo. Bot. Gard.). TEXAS: Pierce, *Tracy*, no. 7636. Both distributed as *P. mexicanum*.

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A KEY TO THE NORTHEASTERN AMERICAN SPECIES OF BIDENS.

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IN attempting to determine the relationships of several species of *Bidens* it has been found helpful to construct a key to all the members of this genus, native and naturalized, which are found from Maryland to the Gulf of St. Lawrence. Since this includes several species not treated in edition 7 of Gray's Manual, it is here presented.

- a. Achenes flat, or rhomboidal in cross-section, or with winged keels, not conspicuously narrowed to the summit *b*
- b. Achenes cuneate, without winged margins *c*
- c. Awns of firmer texture than the body of the achene, terete or with rounded angles: outer involucre bracts exceeding the disk *d*
- d. Achenes striate: leaves simple, often deeply cleft *e*
- e. Margins of the achenes antrorsely barbed, at least at the very base *f*
- f. Terminal heads with 8–30 flowers *g*
- g. Achenes nearly linear, plano-convex in cross-section, without midribs, copiously pubescent: awns very slender, spreading, at least $\frac{1}{2}$ as long as the body of the achene...*B. bidentoides* (Nutt.) Britton.
- g. Achenes flat to bi-convex, with conspicuous midribs, sparsely pubescent: awns stouter,

- not more than $\frac{1}{3}$ as long as the body of the achene *h*
- h*. Terminal heads 8 mm. or more long... *B. Eatoni* Fernald.
- h*. Terminal heads 4-7 mm. long... \times *B. multiceps* Fassett.
- f*. Terminal heads with 30-60 flowers *i*
- i*. Achenes 4-angled at summit, at least when mature... *B. connata* Muhl.
- i*. Achenes flat... *B. heterodoxa* (Fernald) Fernald & St. John.
- e*. Margins of the achenes retrorsely barbed for the entire length *j*
- j*. Summit of achenes convex and cartilaginous *k*
- k*. Heads hemispherical, nodding in anthesis: outer involucre bracts reflexed, spreading, or subascending: achenes rhomboidal in cross-section, finely and obscurely striate, often tuberculate *l*
- l*. Achenes straight and flat, not strongly keeled, without pale corky margins: chaff reddish tipped: rays 1.5-3 cm. long... *B. laevis* (L.) BSP.
- l*. Achenes curved, strongly keeled, with pale corky margins: chaff yellow tipped: rays wanting or at most 1.7 cm. long... *B. cernua* L.
- k*. Heads campanulate to subhemispherical, erect in anthesis: outer involucre bracts ascending: achenes biconvex, coarsely and deeply striate, not tuberculate... *B. hyperborea* Greene.
- j*. Summit of achenes not convex and cartilaginous *m*
- m*. Outer involucre bracts regularly and copiously ciliate: achenes dark brown to black... *B. tripartita* L.
- m*. Outer involucre bracts smooth-margined or nearly so: achenes light brown to olive
B. comosa (Gray) Wiegand.
- d*. Achenes not striate: leaves pinnate, the terminal division usually stalked *n*
- n*. Outer involucre bracts smooth-margined or nearly so... *B. discoidea* (T. & G.) Britton.
- n*. Outer involucre bracts regularly and copiously ciliate *o*
- o*. Outer bracts 10-16; inner bracts ovate-triangular, shorter than the disk... *B. vulgata* Greene.
- o*. Outer bracts 5-8; inner bracts oblong, equaling the disk... *B. frondosa* L.
- c*. Awns of the same texture as the body of the achene, sharply triangular in cross-section: outer involucre bracts shorter than the disk... *B. coronata* (L.) Britton.¹
- b*. Achenes elliptic-ovate, with scarious crenate margins *p*
- p*. Outer foliaceous bracts 8-10, smooth or merely ciliate, shorter than the inner... *B. aristosa* (Michx.) Britton.
- p*. Outer foliaceous bracts 12-20, coarsely hispid, mostly longer than the inner... *B. involucreata* (Nutt.) Britton.
- a*. Achenes linear, 4-angled, narrowed toward the summit *q*
- q*. Leaves once pinnate; leaflets finely and evenly serrate. *B. leucantha* Willd.
- q*. Leaves bipinnatifid *r*
- r*. Ultimate leaf-segments broadly lanceolate, coarsely serrate... *B. bipinnata* L.
- r*. Ultimate leaf-segments linear, entire... *B. tenuisecta* Gray.

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¹ *B. coronata* (L.) Britton = *B. trichosperma* (Michx.) Britton. Not *B. coronata* (L.) Fisch.